AN ANALYSIS OF CINCOM SYSTEMS AND NET/MASTER

INPUT

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PERFORMED FOR

US WEST

October 30, 1987

BY

INPUT

1280 Villa Street
Mountain View, California 94041-1194
(415) 961-3300
TELEX 171407
FAX (415) 961-3966

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1987

AUTHOR

AN ANACYSIS of CINCOM SYS.

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AND NET/MASTER

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I. INTRODUCTION

The purpose of this study is to evaluate Cincom Systems and it's network management software product: NET/MASTER.

The information contained in this report is based on six interviews with current users of NET/MASTER, several industry experts, several interviews with current and former employees of Cincom, and an extensive analysis of information in INPUT's vendor and subject files as well as a wide variety of related reports (and their backup files) produced by INPUT over the past two years.

Although INPUT believes the information reported herein to be reasonably accurate, it should be viewed as preliminary and significant investment on the part of U.S. WEST should be only committed after further investigation and analysis.

II. EXECUTIVE SUMMARY

A. BACKGROUND

Cincom Systems is a systems software house specializing in data base management products for the IBM mainframe marketplace. It has sustained a high rate of growth over the past 6 years (19% AAGR from 1981 to 1987). This growth peaked in 1983 with a 31% increase, declined in 1984 to 22%, and took a sharp drop in 1985 to 1% as shown in the following exhibit.

REVENUE SUMMARY

1981	1982	1983	1984	1985	1986	1987
43M	54M	71M	85M	86M	100M	120M

The drop in growth rate from 1984 to 1986 reflects several factors. A maturing market reaching a saturation point, substantial and increasing competition from a variety of strong competitors, rapid technological advancements in data base management software, and the introduction in 1984 of DB2 by IBM in a new and very aggressive marketing program towards this software market.

A number of major IBM DBMS product firms suffered revenue growth declines and even revenue and profit losses in the past few years. Cullinet being one of the most prominent losers. Cincom has managed to minimize the impact of these trends by changing its strategy relatively early compared to some of its major competitors.

The major growth in the systems software market started to shift towards mini computers in the early 1980s. Cincom entered this market with a version of its TOTAL package called Ultra aimed at the DEC VAX market in 1985. Cincom also entered the applications software market in 1983 with manufacturing applications. Cincom also diversified into other systems software products outside of the DBMS area; the most notable being NET/MASTER in 1984. The surge in revenue growth form 1985 to 1987 reflects the success of SUPRA and NET/MASTER. By the end of fiscal year 1987, these products accounted for about 25% of Cincom's revenues and for a major portion of its revenue growth.

B. MARKET SHARE

The systems software market is highly fragmented but led by one vendor, IBM. Although Cincom is one of the 10 largest independent systems software vendors in the United States and the World market, it has less then a 3% share of either market.

The market for Network Management Software is new and not well defined. There are at least 100 vendors who offer products that support various network management functions. Fewer then a half a dozen appear to have products similar to and competitive with Cincom's NET/MASTER. None of the products are more then four years old. NET/MASTER is clearly a leader in this market. With 1987 revenues of close to fifteen million dollars, NET/MASTER has about a 25% share of the market. This market is projected by INPUT to grow at an average annual growth rate of 35% a year over the next five years. INPUT expects Cincom to garner about 20% to 40% of the market over that time period as shown below.

NETWORK MANAGEMENT SOFTWARE MARKET

	1987	1992
TOTAL MARKET	60M	270M
Cincom's NET/MASTER	15M	60-100M

C. FUTURE PROSPECTS

Because Cincom started relatively early to diversify into additional higher growth markets than it's traditional mainframe DBMS market, it is now positioned to continue that successful strategy into the future. INPUT sees the major growth opportunity in the systems software marketplace to be with products which provide easy-to-use architecturally compatible, tools, applications, and data bases across multi-platform and multi-vendor hardware environments. Cincom took some small early steps by adapting its IBM based products to DEC and other vendors systems. It has taken a major step by bringing out NET/MASTER.

SUPRA is also a strong product that is expected to compete effectively against IBM's DB2 and the other independent software firm's offerings.

A major weakness in the DBMS area is Cincom's lack of support for SQL. Cincom intends to introduce SQL in 1988, which is timely enough so as not to be a significant weakness if the company meet its schedule.

A major user need in the future will be for Distributed Relational Data Base Management Systems across multi-vendor and multi-systems environments. CINCOM is positioned to develop this capability through its SUPRA and MANTIS products. Cincom is aware of this need and is focusing R&D efforts in that direction. INPUT believes they will announce such a product by the end of 1988 or early 1989.

As the minicomputer has supplanted the mainframe as the high growth area over the past ten years, the microcomputer will supplant the minicomputer over the next ten years. The technology represented by the 80386 processor will bring huge demand for the kinds of tools and applications previously available only in the mainframe and minicomputer world. Products like NET/MASTER will be of enormous importance in tying these micro's and mini's to mainframes. The strategic importance of this fact has not been lost on IBM and other hardware manufacturers.

CINCOM has a clear lead in this environment, but needs to take some important steps to stay in front. A major step will be to provide application development tools at the microcomputer level. Cincom has indicated that it is developing a version of MANTIS for the micro's which will fill this gap.

C. CONCLUSIONS

Cincom System is one of the better managed systems software vendors. The company is well position for a high level of profitable growth in the future. The company's investment in research and development and it's ability to acquire good products and strong partners through strategic alliances bolster it's fundamental strengths.

NET/MASTER is a product that has been widely bought, and highly acclaimed by the limited number of customer's INPUT interviewed for this study. The product appears to lead the market it serves and is well positioned to be expanded in capability and into broader markets.

The company is confronting head on the strongest adversary in the industry, IBM, in a strategically vital market, but INPUT believes that the company has the talent and resources to meet the challenge.

Cincom would be an excellent partner in addressing the markets and related markets with which it is involved.

Cincom would be a superior company in which to invest or to acquire.

The company is likely to be frustrated in it's aspirations to become a public company for at least eighteen months due to the October crash in the stock market. For that reason, this is probably an excellent time to negotiate a purchase of part or all of the company's stock.

In respect to an acquisition, the company would probably be most receptive to an offer consisting of a high percentage of stock versus cash.

III. REVENUE SOURCES

A. PRODUCTS

One hundred percent of Cincom's 1987 revenue was derived from software products and associated support services. A breakdown by type of product is shown in the following exhibit.

SYSTEMS SOFTWARE		90%
DBMS & APP TOOLS	78%	
NET/MASTER	12%	
APPLICATIONS SOFTWARE		10%
TOTAL SOFTWARE REVENUES		100%

Revenues from NET/MASTER have been growing at a much higher rate then any other category.

B. SYSTEM VENDOR TYPE

Eighty-five percent of the company's revenues come from IBM mainframes, ten percent from DEC VAX/VMS and the remaining five percent from various other systems hardware. The revenues coming from the DEC market are expected to increase in the next year to 15% of total revenues.

C. INDUSTRY MARKETS

Cincom's revenue is derived primarily from the manufacturing, banking and finance, utilities, and government segments, although its products are used across all industries. The company's products are used by over half of the Fortune 500.

D. GEOGRAPHIC MARKETS

Fifty-two percent of the company's revenues come from the domestic market and forty-eight percent from international markets. The international revenues are increasing at a slightly higher rate then domestic revenues.

Cincom's fiscal 1987 revenue was derived approximately as follows:

U.S.	52%
Australia	8
England	7
France	5
Belgium	5
Canada	5
West Germany	3
Other foreign	15
Total	100%

IV. MAJOR COMPETITORS

A. DATA BASE MANAGEMENT AND APPLICATION TOOLS

Cincom's major competitors in the DBMS market include the following companies and products:

IBM	DB2 & IMS
Cullinet	IDMS/R
ADR	Datacom/DB
Software AG	ADABAS
Mathematica	Ramis II
Informat. Builders	FOCUS

B. NET/MASTER

Cincom's major competitors in the Network Management Software market include the following companies and products:

IBM	NetView - 100 users
Duquesne Systems	Terminal Productivity Executive (TPX) - 200 users
The Systems Center	Network DataMover - 200 users
ADR	ADR/D-NET 50 users

INPUT estimates that Cincom currently has approximately 400 installations of NET/MASTER.

V. RESEARCH AND DEVELOPMENT

A. INVESTMENTS

CINCOM, by their own account, has invested heavily in Research and Development. During the past eight years the company claims to have spent 100 million dollars on R&D. During the past three years, the company has spent approximately 20 million per year on R&D.

The company has gone to third parties for some new product development, specifically for network and application software. This has reduced the need for internal R&D investment and has been a successful strategy for the company. INPUT expects Cincom to continue to enter new product areas in this manner.

Cincom develops and maintains most of the software it sells and has gone to outside sources primarily where they lack expertise. Outside sources are discussed in detail in the strategic alliances section of this report.

B. COMPUTER SYSTEMS

Cincom uses a variety of hardware for systems development and internal reporting, including:

- 2 IBM 3081s, DOS, MVS.
- 1 IBM 4341, DOS
- 2 DEC VAXs, VMS.
- 1 NCR 8570.
- 1 SEL 32/27.
- 1 Prime 750.
- 1 Four Phase.
- 1 Wang.
- 1 Data General ECLIPSE.
- 1 Harris 100.

C. TECHNOLOGY

INPUT believes Cincom to be a technology leader in DBMS and in Network Management Software. But both of these areas are rapidly changing and it will take excellent judgement as well as technical competence to maintain this leadership. INPUT has noted certain weaknesses and potential problems in the overview above, but believes Cincom has a better then average chance of maintaining and possibly improving its leadership position in technology.

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VI. PROFITS

INPUT believes Cincom has reported very little profit over the past five years.

The company has indicated that they intend to freeze R&D expenditures at 20 million dollars per year over the next several years in order to report higher profits. INPUT interprets this policy as a precursor to going public.

VII. MARKETING

A. EFFECTIVENESS

If Cincom has a weakness it probably has been marketing. The company concentrated much of it's resources towards research and development at the expense of marketing. Consequently the company has lost market share to competitors, such as Cullinet, who have placed a greater emphasis on marketing.

The investment in research and development may now be starting to pay off in giving the company a technological edge in DBMS and network management.

Cincom changed it's marketing management at the beginning of 1987 when it hired Mike Mahoney as Vice President of North American Sales and is now taking a more aggressive posture in it's marketing efforts. It is too early to assess the potential success of this effort, but it appears that the company is taking steps to improve in this critical area.

B. OFFICE LOCATIONS

The company has 60 offices in 40 countries.

U.S. regional offices are located in Boston, Chicago, Dallas, Philadelphia, San Francisco, and Washington D.C. Branch offices are located in Atlanta, Buffalo, Cincinnati, Cleveland, Denver, Detroit, Grand Rapids (MI), Greensboro (NC), Houston, Irvine and Los Angeles (CA), Kansas City (KS), Milwaukee, Minneapolis, Edison (NJ), New York, Orlando, Pittsburgh, St. Louis, and Seattle.

European operations are coordinated from Brussels (Belgium), with additional offices located in Denmark, England, France, West Germany, Austria, Holland, Norway, Sweden, Monaco, and Switzerland.

Other international offices are located in Australia, New Zealand, Hong Kong, Japan, Singapore, Malaysia, and Brazil.

Independent agents market Cincom's products in Portugal, Finland, Spain, Italy, Yugoslavia, Greece, Lebanon, Saudi Arabia, South Africa, Argentina, Chile, Columbia, Ecuador, Guatemala, Peru, Puerto Rico, Uruguay, Venezuela, Dominican Republic, Philippines, Republic of China, Thailand, Korea, and Indonesia.

VIII. KEY PRODUCTS AND SERVICES

A. PRODUCTS

Cincom offers approximately 400 software products, most of which are various host computer versions of its major system software products--TOTAL, MANTIS, ULTRA, SUPRA (the replacement product to TIS), and ENVIRON/I. A listing of Cincom software products is provided in the exhibit. Most systems are designed to run on large IBM and compatible mainframes and are fully integrated with SUPRA and TOTAL. There are currently over 20,000 product installations worldwide, available on over 32 computers and 46 operating systems.

B. SYSTEMS SOFTWARE

Cincom's systems software products contributed 90% to fiscal 1987 revenue and include the following:

SUPRA, introduced in 1985, is the replacement product for Cincom's Total Information System (TIS). SUPRA is an advanced relational data base management system for the IBM mainframe environment.

The five major components of SUPRA are:

Relational Data Manager (RDM) supports the three components of the relational data model--structure, manipulation, and integrity.

Physical Data Manager (PDM) supports physical data structuring techniques including indexing, hashing, chaining, clustering, sequential, flat, coded, and more.

SPECTRA is a relational data base query language used for information retrieval and application development. SPECTRA allows end users to access corporate data non-procedurally, as well as build their own applications. The system increases flexibility by supporting external files.

NORMAL is a data base design tool that improves the productivity, accuracy, and effectiveness of the logical and physical data base design process.

In-Line Directory controls data access, security, and application development, integrating all components and ensuring that sensitive data is secure from unauthorized users and operations.

SUPRA is available for IBM 30XX, 43XX, and compatible computers running on MVS, MVS/XA, DOS/VSE, and VM operating systems.

TIS, for Total Information System, (SUPRA's predecessor product) is an integrated data base system designed for the high-volume data processing environment. TIS was installed at 275 sites as of October 1985. ULTRA is the DEC VAX version of TIS. Components include a data base manager, query system, report writer, teleprocessing monitor, and a procedural language for on-line application development.

The TOTAL Data Base Management System has data independent and structuring capabilities that allow users to develop applications on a modular basis. Other features include multiple search and processing modes, language interfaces, restart/recovery capabilities, and a comprehensive security system.

TOTAL runs on all major mainframes, including IBM, Univac, Control Data, Honeywell, Burroughs, RCA, NCR, Siemens, and ICL. Versions are also available for minicomputers manufactured by DEC (PDP-II and VAX), Interdata, Prime, Honeywell (Level 6), Univac, Harris, Modcomp, SEL, Data General (ECLIPSE), and Wang(VS).

NET/MASTER, Cincom's Network Management System, provides single operator control of a multiple CPU, multiple site, and multiple application network.

NET/MASTER integrates multiple on-line applications including IMS, CICS, TSO, CM, and ENVIRON/I into a single operating environment.

The product is available for IBM 43XX, 30XX, or compatible computers under MVS, VS/I, or VSE operating systems.

ENVIRON/I is an on-line teleprocessing monitor and task management system that allows ease of implementation for complex applications. The system employs virtual memory techniques, is modular in design, and provides conversational programming, simulation capabilities, and statistical utilities. ENVIRON/I can be used in a stand-alone environment as well as in combination with TOTAL.

MANTIS is an on-line application development system and programming language using structured coding and top-down design techniques. Users can create screens and files, write programs, test and debug applications, document systems, put systems, put systems on security menus, and replace applications for production. MANTIS is available for IBM, Wang VS, Honeywell, ICL, and DEC VAX computers.

T-ASK is an on-line query system and directory-driven interpretive processor. The system provides a relational view of information contained in the data base and allows the user to develop inquiries and solve ad hoc requests.

SOCRATES is a data extraction and report generation system that is fully integrated with TOTAL and also supports non-TOTAL files. The system allows extraction of report format options.

PC CONTACT is an integrated, interactive, upload/download communication link between the IBM 370 architecture and the family of IBM personal computers. PC CONTACT allows users to extract corporate data from the mainframe host using MANTIS. The information can then be downloaded to a PC diskette. Similarly, the user can upload data from the PC back to the mainframe host.

C. APPLICATION SOFTWARE PRODUCTS

Cincom's application software products contributed 10% to fiscal 1985 revenue and include the following:

CONTROL:Manufacturing (formerly the Manufacturing Resource Planning System) is an application product available for IBM 43XX, 30XX, and DEC VAX computers and included the following components:

- Bill of Material and Routing.
- Material Control.
- Master Production Scheduling.
- Material Requirements Planning.
- Shop Floor Control.
- Purchasing.
- Cost Management.
- Order Entry.

CONTROL:Financial is available for IBM 43XX and 30XX computers and includes the following components:

- Accounts Receivable.
- Accounts Payable.
- General Ledger.

MANGRAF is a business graphics tool that provides output from on-line applications using centralized production data base information.

MANTEXT is a free form text processing system that enables end users to access corporate files for the creation of business documents and corporate mailings.

IX. STRATEGIC ALLIANCES

Software Development Pty. Ltd. (SDP)

In 1984, Cincom acquired the worldwide (except Australia) marketing rights to NET/MASTER from this company. The product was first installed in 1982 in Australia, where it currently has 80% of the market versus 20% by IBM. The product was developed by John Robinson, president of SDP, and Michael Gill and Stephen Dawson.

SDP continues to maintain and develop the product. Cincom's relationship with the company is excellent. There are no indications of conflict between the two companies. SDP is pleased with the marketing effort of Cincom and is very positive about the relationship.

Cincom is putting a major effort into the marketing of the product and apparently is very pleased with the R&D and technical support provided by SDP.

NCR Corporation

Signed a development contract with NCR in February, 1985 under which Cincom developed an NCR version on Mantis and enhanced TOTAL.

Digital Equipment Corporation

In June, 1985 Cincom signed a Cooperative Marketing Agreement with Digital Equipment Corporation. Cincom has since grown its VAX environment revenue to about 15 percent of its total revenues in 1987. The relationship with DEC appears to be very solid at this time. Cincom supports, Ultra, Mantis, Ultra-scope, Spectra, Control:Manufacturing, and Control:Financial on the DEC VAX's systems.

Fusion Products International

Entered into an agreement in September, 1985 for Cincom to market Fusion/36 decision support software with Cincom's TOTAL DBMS.

The Software Group

Signed agreement in November 1985. Interfaced PC CONTACT with Enable and provided for a joint marketing effort including joint lead referrals.

Aston-Tate Corporation

Signed agreement in June 1986. The companies cooperated on integrating PC CONTACT with Framework II and dBASE III PLUS. PC CONTACT operates with MANTIS in providing a link between mainframes and microcomputers using the Aston-Tate products. The agreement provides, in addition to the joint development mentioned above, for the two companies to provide referrals to each other.

Interactive Systems, Inc.

Cincom acquired in April, 1987 worldwide marketing rights to the FASBE General Ledger system which operates in the DEC VAX environment. Also provided for joint effort to develop the same application in MANTIS for VAX/IBM mainframe compatible versions. This product became the general ledger product in Cincom's CONTROL: Manufacturing product line.

Cincom also announced in the same month Project Manufacturing Control (PMC) and Order Management System (OMS) for manufacturing, but is unclear whether Cincom developed these products or also received them from Interactive Systems.

Litton Industrial Automation Systems Inc.

Joint marketing and product development agreement signed in July, 1987. Litton is a provider of factory automation software and CIM integration services.

Intergraph

Joint marketing and product development agreement signed in July, 1987. Supplier of turnkey interactive graphic systems.

Epic Data, Inc.

Joint marketing and product development agreement signed in July, 1987. Developer of advanced, integrated factory data collection systems.

John A. Keane and Associates

Joint marketing and product development agreement signed in July, 1987. Statistical process control and manufacturing quality control information management software.

Systonetics

Joint marketing and product development agreement signed in July, 1987. Developer of project management software for the aerospace defense industry and commercial manufacturers.

X. ORGANIZATION

A. DIVISIONS

Cincom is organized into six primary business divisions as follows:

The North American Sales Division is the marketing/sales division for the distribution of mainframe and minicomputer systems and application software in North America.

The International Marketing/Sales Division is the marketing/sales group for the direct international distribution of mainframe and minicomputer systems and application software.

The International R&D Division is responsible for research and ongoing development of Cincom's entire product line.

The International Finance and Administration Division is responsible for the international financial, accounting, legal, administrative personnel, and computer services areas.

The International License Division oversees Cincom's international indirect license distribution channels.

The Technology Transfer Division is responsible for the development of third-party agreements, as well as licensing technologies through third parties.

B. WORK FORCE

Cincom has approximately 1500 employees in its work force distributed as follows:

Marketing/Sales	600
Research and development	300
Software services/customer support	300
Computer operations	100
General and administrative	200
	1,500

C. MANAGEMENT AND KEY PERSONNEL

1. SENIOR MANAGEMENT

Thomas M. Nies Chairman, President, & CEO

A native of Cincinnati, Mr. Nies holds a B.A. in marketing and an MBA in finance from the University of Cincinnati. His career in the computer industry began in 1962 with International Business Machines (IBM). He left IBM in 1968 to found Cincom Systems.

Barry Sargeant Vice President International Sales

A Cincom executive since 1974, Mr. Sargeant is responsible for directing all sales and field support efforts outside of North America.

Gerald Shawhan Vice President Finance & Administration

A Cincom executive since 1983, Mr. Shawhan is responsible for all financial and administrative operations for the company. These operations include Finance, Legal Affairs, Plant Facilities, Employee Relations and Computer Resources.

Stanley J. Sewall Vice President Research & Develop.

A Cincom executive since 1971, Mr. Sewall is responsible for the development and acquisition of new product technologies as well as continued enhancements of existing products.

Mike Mahoney Vice President No. Amer. Sales

Mr. Mahoney, a Cincom executive since January, is responsible for directing Cincom's sales organization in the United States and Canada. Before joining Cincom, Mr. Mahoney was Vice President, Domestic Sales for Execucom Systems Corporation in Austin, Texas. His previous experience includes work as a District Sales Manager for ADP Network Services, based in Ann Arbor, Michigan, and as a Branch Sales Manager for Computer Sciences Corporation, based in El Segundo, California.

A native of Chicago, Illinois, Mr. Mahoney holds a B.S. in business administration from Villanova University, and an M.B.A. from Peperdine University.

Bill Dorece Vice President Strategic Alliances

Mr. Dorece is responsible for maintaining and developing new business channels and vertical marketing efforts, including Cincom's Cooperative Marketing Agreement with Digital Equipment Corporation; the New Channels Division, which develops vertical markets for such industries as education, insurance, and health care; the Ventures Division, which transfers Cincom technology from the IBM and Digital environments to NCR, Wang, Honeywell, and other hardware suppliers; and the acquisition of products from other software suppliers.

Mr. Dorece has more than 23 years of experience in data processing. He first joined Cincom as a Systems Engineer in 1972. Since then, he has held such positions as Systems Engineer Manager, Marketing Sales Representative, Area Manager, Regional Director, and Divisional Director. A native of the Chicago area, Mr. Dorece attended the University of Wisconsin, where he studied business management.

Tom McLean Vice President Marketing & Product Planning

Tom McLean, a Cincom executive since 1976, is responsible for all aspects of marketing, including market research and planning, product management, marketing services, advertising, public relations, and corporate communications.

Mr. McLean has been with Cincom for more than eleven years, in such roles as a Marketing Service Representative, Major Account Manager, Product Manager, and Manager of Major Accounts and Vertical Marketing. Most recently, he was Director of Marketing and Product Planning.

A native of Cincinnati, Mr. McLean is a graduate of St. Xavier High School. He also attended Miami University of Oxford, Ohio, where he majored in marketing.

2. KEY PERSONNEL

David A. Wood Sn. Prod. Manager

Mr. Wood is product manager for all Cincom software products, including ULTRA, and the newly announced SUPRA DBMS product. Author of NORMAL, Cincom's relational data modeling product. Mr. Wood has also managed development of educational and seminar programs.

Ron Hank Senior Manager Corporate Relations

Mr. Hank will continue to be responsible for Cincom's Business Information Program which provides information to industry consultants, as well as coordinating customer visits and product presentations and demonstrations.

A Cincom executive since 1975, Mr. Hank has held various sales, technical and managerial positions. A native of Cincinnati, he holds a B.S. degree from Miami University in Systems Analysis.

Thomas J. Vollmar NET/MASTER(tm) Marketing Manager for Cincom

Mr. Vollmar is responsible for developing marketing plans, product strategies, and working with Cincom's sales force on all aspects of the product, in the U.S. as well as international markets.

Mr. Vollmar joined Cincom in 1977 as a Marketing Sales Representative, based in St. Louis. Since that time, he has held a variety of marketing positions, most recently as the NET/MASTER Marketing & Sales Consultant. A native of Cincinnati, Mr. Vollmar holds a B.A. in business administration from the University of Cincinnati, and an M.B.A. from Xavier University.

The following individuals hold middle management positions. Their current status at Cincom has not been verified so they may hold other positions or no longer be with the company.

Victoria Neas Duckworth Product Manager Data Communications

Ms. Duckworth is responsible for the planning, technical direction, and marketing of Cincom's data communications software products, including NET/MASTER, PC CONTACT, and TIS/XA Communications Monitor.

Ms. Duckworth first joined Cincom in 1976 as a computer programmer. In 1980, she was named Technical Manager for MANTIS. In 1981, she was promoted to Data Communications Projects Manager, and in 1983, she was named Data Base Projects Manager.

A native of Charleston, West Virginia, Ms. Duckworth holds a B.S. degree in Applied Science from Miami University.

Thomas Womeldorff Senior Product Manager, Application Systems

David B. Cushman Sn. Consultant Manufacturing Indy

He manages Cincom's program to provide new software and support services for the aerospace and defense industry. Mr. Cushman has more then 24 years of experience with manufacturing systems and software, including work with Cetec Broadcast Group, Infrared Industries, and United States Filter. Prior to joining Cincom, he was head of manufacturing systems for the Santa Barbara Research Center, a division of Hughes Aircraft. He holds a B.A. in Engineering/Economics from Pomona College, and an M.B.A. in Industrial Management from California State. He is also certified in Production and Inventory Management by the American Production and Inventory Control Society.

Larry Brooks	Marketing Research Specialist	
Eugene N. Kakalec, Jr.	Federal Account Manager Dayton, OH	
Dick Kleinberg	Western Regional Manager San Francisco, CA	
Daniel R. Larsen	Tax Manager	
Tom Long	Director, Internation Products	
Ronald A. Weeks	Manager, Corporate Planning	
Martin Kral	Product Manager	MANTIS
Barry Lotman	Product Manager	Microcomputer
Gregg St. John	Product Manager	Financial Systems
Doug Baer	Senior Product Mgr	Ultra data base
Peter Breeze	Senior Product Mgr	Data Base Technology

XI. SURVEY RESULTS

A. CUSTOMER ASSESSMENTS

The customer's interviewed by INPUT had the following comments about NET/MASTER:

- "Good product"
- "Quite comprehensive"
- "Easy to use"
- "Enables us to conduct multiple activities from a single terminal...easily"
- "Product is not an outrageous resource hog"
- "Cincom is doing a good job of supporting the product"
- "We're glad we bought it and would do so again"
- "We chose the product because it had the most features"
- "Great. One of the best packages we have ever had. It has no hooks into VTAM so whenever you change VTAM versions no modifications are required."
- "The more complex the network, the better."

B. INSIDER'S PERSPECTIVES

The following views were obtained from a former President of Cincom Systems and the current President of Software Development, Pty., the developer of NET/MASTER:

- "This thing is a boomer! Sales went from $200,000 to $4,000,000 to $15,000,000 in 3 years."

- "The market's out there. Cincom now has its arms around the product from a support point of view, the technical cooperation with the Australian developer is good and we're doing well in many markets."

- "IBM is an enormous threat and challenge, but:

  - There are things in the way of on-line session management that our product does that IBM doesn't do. We can seamlessly integrate dissimilar IBM environments like TSO, CMS and CICS.

  - There are users out there, albeit a minority, that don't want to be IBM captives and relish having independent software controlling resources and the network.

  - All we want is our 70% of the 30% that don't go IBM all the way."

C. OUTSIDER'S PERSPECTIVE

- "This thing doesn't talk to Net/View through Net/View PC, therefore it lacks functionality at the detail level and conformance to accepted standards."

- "It doesn't talk to outside devices like modems, multiplexors, PBX's and network control stations in Net/View PC protocol, therefore it's not really a fully featured network control system."

- "Tim Smith, a product manager for Timplex, a leading manufacturer of T1 multiplexors said that they were going to investigate building interfaces into their products to NET/MASTER because of it's broad presence in major sites."

- "Nobody can win against the IBM tide. Not only is Net/View the de facto standard, but Net/View is becoming more and more intimately interwoven with SNA itself, so that you almost can't have one without the other."

- "PS, it really shouldn't be that way, because information processing should be independent of information transport, and really, the carriers should provide the network management facility rather than anyone else."

D. INSIDER'S REBUTTALS

- "Yes, but you're all failing to distinguish what Net/Master really is. Only two segments out of four actually compete with Net/View, and then only on the information and application level, not on the physical transport level."

- "This is the difference between a `driver' and a `manager.' Net/Master sits as a shell in front of the drivers that make connections, access data and initiate sessions, making the process easier and providing management information and control that isn't there when the whole thing is a collection of fragments as is the typical IBM case."

E. INPUT'S ASSESSMENT OF COMMENTS

INPUT believes there may be something pretty good here, but the uncertainties are significant and warrant considerable additional investigation before a clear-out technical and marketing case can be made.

F. OTHER SURVEY RESULTS

The respondents had an average of 2,000 terminals in their networks, with the low being 900 and a high of 5000.

Telephone and on-site support, fault correction, and documentation were all rated from good to excellent.

All respondents had no regrets in buying NET/MASTER and would do so again.

All of the respondents would recommend the product to others.

The smallest system NET/MASTER was installed on was a 3083. Most installations were running on 3090's.

Majority of users were using MVS/XA.

Data base management software used at the installations included IMS, CICS, DB2, MODEL, IDMS, M204.